Air Quality
PERMIT TO CONSTRUCT
State of Idaho
Department of Environmental Quality

PERMIT No.: P-2008.0114
FACILITY ID No.: 047-00008
AQCR: 63 **CLASS:** SM **ZONE:** 11
SIC: 2022 **NAICS:** 311513
UTM COORDINATE (km): 693.3, 4757.6

1. **PERMITTEE**
Glanbia Foods, Inc., Gooding Facility

2. **PROJECT**
Permit to Construct (PTC) Modification – Increase in biogas production from the anaerobic digester, allow biogas to be combusted in full-time Boilers No. 2 and No. 3 for steam generation, and allow the combustion of biogas in auxiliary Boiler No.5 concurrently with the flare.

3. **MAILING ADDRESS**	**CITY**	**STATE**	**ZIP**
1728 South 2300 East	Gooding	ID	83330
4. **FACILITY CONTACT**	**TITLE**	**TELEPHONE**	
Todd Hughes	Environmental Manager	(208) 934-9835	
5. **RESPONSIBLE OFFICIAL**	**TITLE**	**TELEPHONE**	
Barner Kreuger	Vice Pres. – Technical Services	(208) 733-7555	
6. **EXACT PLANT LOCATION**		**COUNTY**	
1728 South 2300 East, Gooding, ID		Gooding	

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
Cheese and Whey Processing

8. **PERMIT AUTHORITY**

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.200 through 228, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality (DEQ) or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.

DARRIN PAMPAIAN, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE MODIFIED/REVISED:	November XX, 2008
DATE ISSUED:	June 6, 1994

MIKE SIMON, STATIONARY SOURCE PROGRAM MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY

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Acronyms, Units, and Chemical Nomenclature

(Add facility-specific acronyms as needed and delete any acronyms not used.)

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
biogas	any gas fuel derived from the decay of organic matter, as the mixture of methane and carbon dioxide produced by the bacterial decomposition of sewage, manure, garbage, or plant crop
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
H_2S	hydrogen sulfide
HAPs	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/yr	tons per year
$\mu g/m^3$	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound
WPC	whey protein concentrate
wt %	weight percent

1. PERMIT TO CONSTRUCT SCOPE

Purpose

1.1 The purpose of this permitting action is to allow for an increase in biogas production from the anaerobic digester, allow biogas to be combusted in full-time Boilers No. 2 and No. 3 for steam generation, and to allow the combustion of biogas in auxiliary Boiler No.5 concurrently with the flare. This permitting action modifies the facility's existing permit, which established enforceable requirements for the facility's operations involving the boilers, the flare, and the other significant emission sources at the facility in accordance with the *Rules for the Control of Air Pollution in Idaho.*

1.2 Those permit conditions that have been modified or revised by this permitting action are identified by a date citation located directly under the permit condition and on the right hand margin.

1.3 This PTC replaces PTC No. P-2008.0065, issued on June 26, 2008, the terms and conditions of which shall no longer apply.

Regulated Sources

1.4 Table 1.1 lists all sources of regulated emissions in this PTC.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Control(s)
2.	ANAEROBIC DIGESTER: Digester - Biogas generation capacity of 505,000 scf/day	Boilers 2, 3, and 5 and then the flare when the boilers are down
	BIOGAS FLARE: Flare - Varec Biogas model 244 W flare with a heat input rating of 13.68 MMBtu/hr installed in 2005	None (considered an emission control device when combusting biogas)
	FULL-TIME BOILER: BOILER 2 - Cleaver Brooks model #CB600-600 (SN L-90943) natural gas/biogas/low sulfur distillate oil-fired boiler with a rated heat capacity of 25.1 MMBtu/hr installed in July 1992	Annual distillate fuel oil throughput limit and distillate fuel oil sulfur content limit (considered an emission control device when combusting biogas)
	FULL-TIME BOILER: BOILER 3 - Cleaver Brooks model #CB600-600 (SN L-79896) natural gas/biogas/low sulfur distillate oil-fired boiler with a rated heat capacity of 25.1 MMBtu/hr installed in December 1996	Annual distillate fuel oil throughput limit and distillate fuel oil sulfur content limit (considered an emission control device when combusting biogas)
	AUXILIARY BOILER: BOILER 5 - Cleaver Brooks model #CB700-400-30H natural gas/biogas-fired boiler with a rated heat capacity of 16.73 MMBtu/hr installed in 2005	None (considered an emission control device when combusting biogas)
3.	FULL-TIME BOILER: BOILER 1 - Cleaver Brooks model #CB200-800-150 natural gas-fired boiler with a rated heat capacity of 26.4 MMBtu/hr installed in November 14, 2006	N/A
	FULL-TIME BOILER: BOILER 4 - Cleaver Brooks model #CB600-600 (SN L-79895) natural gas-fired boiler with a rated heat capacity of 25.1 MMBtu/hr installed in December 1999	N/A

Table 1.2 SUMMARY OF REGULATED SOURCES (continued)

Permit Section	Source Description	Emissions Control(s)
4.	LACTOSE PRODUCTION LINE - LACTOSE PRIMARY DRYER: WPC Dryer - Relco dryer with a maximum capacity of 11,500 lb/hr of total solids (750 lb/hr of total solids go to baghouse for recovery) with a maximum steam usage rate of 3,996 lb-steam/hr	N/A
	LACTOSE PRIMARY DRYER BAGHOUSE: BH-03 - Relco reverse pulse jet baghouse with 230 polyester bags, each bag: 6 inch in diameter and 120 inch in length, an air/cloth ratio of 6.24 ft/min, and a control efficiency of 99.99%	None, the baghouse is process equipment
	LACTOSE PRODUCTION LINE - LACTOSE SECONDARY FLUIDIZED BED DRYER: Secondary Dryer - Relco dryer with a maximum capacity of 11,500 lb/hr of total solids (525 lb/hr of total solids go to baghouse for recovery)	None, the baghouse is process equipment
	FLUIDIZED BED DRYER BAGHOUSE: BH-04 - Relco reverse pulse jet baghouse with 180 Polyester bags, each bag: 6 inch in diameter and 120 inch in length, an air/cloth ratio of 6.17 ft/min, and a control efficiency of 99.99%	None, the baghouse is process equipment
	LACTOSE PRODUCTION LINE - LACTOSE RECEIVING BAGHOUSE (Existing Bauermeister Receiving Baghouse): Lactose Baghouse - NIRO model #96LRT80 Style III reverse pulse jet baghouse with 75 polyester bags, an air/cloth ratio of 4.53 ft/min, and a control efficiency of 99.99%	None, the baghouse is process equipment
	LACTOSE PRODUCTION LINE - MILLING PROCESS, MILL RECEIVING BAGHOUSE: BH-05 - Relco reverse pulse jet baghouse with an air/cloth ratio of 6.31 ft/min, a control efficiency of 99.99%, and with a maximum capacity of 11,500 lb/hr of total solids (750 lb/hr of total solids go to baghouse for recovery)	None, the baghouse is process equipment
	LACTOSE PRODUCTION LINE – POWDER HANDLING, THREE POWDER BINS: Bin 1 - NIRO powder bin with a capacity of 2,850 ft^3 Bin 2 - NIRO powder bin with a capacity of 2,850 ft^3 Bin 5 - Relco powder bin with a capacity of 2,850 ft^3 Maximum Capacity: 11,500 lb/hr, solids output (from all 3 bins combined)	BH-06 - Relco reverse pulse jet powder bin baghouse with polyester bags, an air/cloth ratio of 6.90 ft/min, and a control efficiency of 99.99%. Note: Each powder bin has its own associated baghouse on top of the bin. The exhausts of three baghouses vent to one stack.
	TWO LACTOSE SURGE HOPPERS: Surge hopper - Relco surge hopper Maximum Capacity: 17,600 lb/hr, solids output (from both hoppers combined)	BH-07 - Relco reverse pulse jet lactose surge hopper baghouse with polyester bags, an air/cloth ratio of 6.89 ft/min, and a control efficiency of 99.99%. Note: Each lactose surge hopper has its own associated baghouse on top of the hopper. The exhausts of two identical baghouses vent to one stack.

Table 1.3 SUMMARY OF REGULATED SOURCES (continued)

Permit Section	Source Description	Emissions Control(s)
5.	WPC BAGGING LINE - WPC SURGE HOPPER: Surge hopper - Niro surge hopper Maximum Capacity: 13,200 lb/hr, solids output	BH-08 – Donaldson Co., Inc. pulse WPC surge hopper baghouse with an air/cloth ratio of 7.7 ft/min and with a grain loading of 0.0044 gr/dscf.
	WPC BAGGING LINE - WPC BAGGING LINE: Surge hopper - Niro surge hopper Maximum Capacity: 10 lb/hr, among the total solids go to baghouse	BH-09 – Donaldson Co., Inc. pulse WPC nuisance baghouse with an air/cloth ratio of 7.7 ft/min and with a grain loading of 0.0044 gr/dscf.

[June 26, 2008]

2. ANAEROBIC DIGESTER, BIOGAS FIRED-FLARE, TWO FULL-TIME NATURAL GAS/BIOGAS/DISTILLATE FUEL OIL-FIRED BOILERS, AND AN AUXILIARY NATURAL GAS/BIOGAS-FIRED BOILER

2.1 Process Description

Process water used for processing cheese and whey is treated by screening, clarifying, and settling. An anaerobic digester is used to further treat the water prior to discharging for land application. The digester generates biogas that is burned in three biogas/natural gas-fired hot water boilers. There are two full-time boilers, Boilers 2 and 3, and an auxiliary boiler, Boiler 5. In the event that either the two full-time boilers or the auxiliary boiler are incapable of burning biogas, it is combusted by the flare. If not enough biogas is available to fire the three boilers, natural gas or low sulfur distillate fuel oil is used as the fuel for the two full-time boilers (Boilers 2 and 3) and natural gas is used as fuel for the auxiliary boiler (Boiler 5), and all of the biogas is combusted in the flare.

The flare incinerates biogas exclusively and has a natural gas-fired pilot flame and a thermocouple (or a similar device) that detects the presence of a flame in the flare. The flare also has an alarm that notifies the operator in the case of a flameout. The flare, the full-time boilers, Boilers 2 and 3, and the auxiliary boiler, Boiler 5, can be fired on biogas simultaneously.

2.2 Emissions Control Description

Emissions from the anaerobic digester are controlled by being combusted by two full-time boilers, the auxiliary boiler, or the biogas flare.

Table 2.1 ANAEROBIC DIGESTER, BIOGAS FIRED FLARE, TWO FULL-TIME NATURAL GAS/BIOGAS/DISTILLATE FUEL OIL-FIRED BOILERS, AND AN AUXILIARY NATURAL GAS/BIOGAS-FIRED BOILER DESCRIPTION

Emissions Unit(s)/Process(es)	Emissions Control Device	Emissions Point
Anaerobic Digester (Digester)	Flare	N/A
Biogas Flare (Flare)	N/A (Note: Is considered an emission control device when combusting biogas)	Exhaust stack FLARE Exit height: 26.8 ft Exit diameter: 2.1 ft Exit flow rate: 14,062 acfm Exit temperature: 1,832 °F
Full-Time Boiler 2 (Blr. 2)	N/A (Note: Is considered an emission control device when combusting biogas)	Exhaust stack BOILER2 and BOIL2D Exit height: 36.0 ft Exit diameter: 2.0 ft Exit flow rate: 8,855 acfm Exit temperature: 390 °F
Full-Time Boiler 3 (Blr.3)	N/A (Note: Is considered an emission control device when combusting biogas)	Exhaust stack BOILER3 and BOIL3D Exit height: 36.0 ft Exit diameter: 2.0 ft Exit flow rate: 8,855 acfm Exit temperature: 390 °F
Auxiliary Boiler 5 (Blr. 5)	N/A (Note: Is considered an emission control device when combusting biogas)	Exhaust stack BOILER5 Exit height: 21.0 ft Exit diameter: 2.0 ft Exit flow rate: 6,966 acfm Exit temperature: 325 °F

[DRAFT]

Emissions Limits

2.3 Emissions Limits

The **PM_{10} and SO_2** emissions from the biogas flare, full-time boilers 2 and 3, and the auxiliary boiler 5 stacks shall not exceed any corresponding emissions rate limits listed in Table 2.2.

Table 2.2 BIOGAS FLARE, FULL-TIME BOILERS 2 AND 3, AND AUXILIARY BOILER 5 EMISSIONS LIMITS

Source Description	PM_{10}		SO_2	
	lb/hr	T/yr	lb/hr	T/yr
Biogas Flare, Single Fuel-Fired **(Biogas Combustion)**	0.10	0.43	5.57	24.40
Full-Time Boiler 2, Tri Fuel-Fired **(Natural Gas Combustion)**	0.17	0.76	0.03	0.13
Full-Time Boiler 2, Tri Fuel-Fired **(Biogas Combustion)**	0.09	0.40	3.53	15.46
Full-Time Boiler 2, Tri Fuel-Fired **(Distillate Fuel Oil Combustion)**	0.59	0.32	1.27	0.69
Full-Time Boiler 3, Tri Fuel-Fired **(Natural Gas Combustion)**	0.17	0.76	0.03	0.13
Full-Time Boiler 3, Tri Fuel-Fired **(Biogas Combustion)**	0.09	0.40	3.53	15.46
Full-Time Boiler 3, Tri Fuel-Fired **(Distillate Fuel Oil Combustion)**	0.59	0.32	1.27	0.69
Auxiliary Boiler 5, Dual Fuel-Fired **(Natural Gas and Biogas Combustion)**	0.14	0.59	7.66	33.56

[DRAFT]

2.4 NSPS-Subpart Dc Sulfur Dioxide Emission Standard

Sulfur dioxide (SO_2) emissions from any oil-fired process boiler stack not exceed 0.5 lb/MMBtu heat input, as required in 40 CFR 60.42.c(d), or as an alternative, the sulfur content in any oil combusted in any oil-fired process boiler shall not be greater than 0.5 wt%.

2.5 H_2S Concentration Limit

The average annual concentration of hydrogen sulfide (H_2S) of the biogas entering the flare, full-time boilers 2 and 3, and the auxiliary boiler 5 shall not exceed 1,799 ppmv.

[DRAFT]

2.6 Opacity Limit

Visible emissions from the biogas flare, full-time boilers 2 and 3, and the auxiliary boiler 5 stacks, or any other stack, vent, or functionally equivalent opening associated with the biogas flare, full-time boilers 2 and 3, and the auxiliary boiler 5, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

[DRAFT]

2.7 Grain Loading Limit

The permittee shall not discharge to the atmosphere from full-time boilers 2 and 3 and the auxiliary boiler 5 stacks PM in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting gaseous fuels, as required by IDAPA 58.01.01.676. The permittee shall not discharge to the atmosphere from full-time boilers 2 and 3 stacks PM in excess of 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume when combusting liquid fuels, as required by IDAPA 58.01.01.676.

[DRAFT]

2.8 Biogas Flare Particulate Matter Emissions Limit

Particulate matter emissions from the biogas flare shall not exceed 0.2 pounds per 100 pounds of biogas combusted, as required by IDAPA 58.01.01.785.

2.9 Odors

No person shall allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids into the atmosphere in such quantities as to cause air pollution in accordance with IDAPA 58.01.01.776.01.

Operating Requirements

2.10 Biogas Production Limit

Biogas production from the anaerobic digester shall not exceed 505,000 scf per day, based on the average scf produced per day over any consecutive 12-month period.

[DRAFT]

2.11 Biogas Combustion

Facility generated biogas produced from the on-site anaerobic digester shall only be combusted in the biogas flare, full-time boilers 2 and 3, or the auxiliary boiler 5.

[DRAFT]

2.12 Allowable Fuel Types

The flare shall only combust biogas as fuel. The full-time boilers 2 and 3 shall only combust biogas, natural gas, or low sulfur distillate fuel oil as fuel. The auxiliary boiler 5 shall only combust biogas or natural gas as fuel.

[DRAFT]

2.13 Distillate Fuel Oil Throughput Limit

The total throughput of low sulfur distillate fuel oil combusted either individually or aggregated in Boilers 2 and 3 shall not exceed 387,258 gallons per any consecutive 12-month period.

2.14 Distillate Fuel Oil Sulfur Content Limit

The sulfur content of any distillate fuel oil combusted in Boilers 2 and 3 shall not exceed 0.05 % by weight.

2.15 Flare Pilot Flame and Alarm

The flare shall be operated with a pilot flame present when the anaerobic digester is operating. In the event of a flame failure, the permittee shall follow a standard operating procedure to reinitiate the pilot flame as expeditiously as practicable.

In addition, the flare shall be operated with a thermocouple or similar device that detects the presence of a flame in the biogas flare. This device shall be periodically calibrated and shall be operated at all times when the flare is operating. The flare shall also be operated with an alarm that notifies the operator in the case of a flameout. The permittee shall follow the excess emissions procedures in IDAPA 58.01.01.130-136 in the event of an excess emissions event caused by the biogas flare.

[June 26, 2008]

Monitoring, Recordkeeping, and Reporting Requirements

2.16 Distillate Fuel Oil Combustion Monitoring

The permittee shall monitor and record the throughput of distillate fuel oil combusted in Boilers 2 and 3 monthly and annually, expressed as gallons per month (gal/month) and gallons per year (gal/yr), to demonstrate compliance with Permit Condition 2.13. Annual throughput shall be determined by summing each monthly throughput over the previous consecutive 12-month period.

2.17 NSPS-Subpart Dc Distillate Fuel Oil Sulfur Content Monitoring, Recordkeeping and Reporting Requirements (Boilers 2 and 3)

The permittee shall comply with the following requirements for Boilers 2 and 3, in accordance with 40 CFR 60.42c(h):

- The permittee shall demonstrate compliance with the fuel oil sulfur content limits specified in Permit Condition 2.14 and 40 CFR 60.42c(d) by complying with 40 CFR 60.48c(d), CFR 60.48c(e), and 40 CFR 60.48c(f).

- In accordance with 40 CFR 60.48c(i), records of each fuel oil sulfur content certification shall remain onsite for the most recent two-year period, and shall be made available to DEQ representatives upon request.
- Semi-annual reports shall be submitted to EPA Region 10 and DEQ in accordance with 40 CFR 60.48c(j).

2.18 NSPS-Subpart Dc Applicability Notification, Monitoring, Reporting and Recordkeeping Requirements (Boilers 2, 3, and 5)

In accordance with 40 CFR 60.48c(a), the permittee shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup as required by 40 CFR 60.7 for the full-time boilers 2 and 3 and the auxiliary boiler 5.

The notification shall include the following:

- The design heat input capacity of the affected facility,
- Fuels to be combusted in the affected facility,
- The annual capacity factor at which the permittee anticipates operating the affected facility based on all fuels fired and based on each fuel fired.

The monitoring and recordkeeping of fuels combusted in the full-time boilers 2 and 3 and the auxiliary boiler 5 shall comply with 40 CFR 60.48c(g).

- The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day, unless alternative monitoring, recordkeeping, and reporting is formally approved by EPA.
- The permittee shall maintain written documentation of any EPA-approved monitoring, recordkeeping, and reporting requirements for the auxiliary boiler.

2.19 Biogas Flow and H_2S Concentrations Monitoring

Unless an alternative monitoring and recordkeeping method is approved by DEQ, the permittee shall comply with the following requirements:

For the hydrogen sulfide analyzer and the totalizing gas flow rate analyzer upstream of the full-time boilers 2 and 3 and the auxiliary boiler 5, the permittee shall install, calibrate, maintain, operate, and record parameters in accordance with the O&M manual and the requirements listed below:

Biogas H_2S Concentration

The permittee shall perform the following to determine the quantity of H_2S produced by the anaerobic digester:

- Calibration of the hydrogen sulfide analyzer shall be performed and recorded semi-annually.

- An H_2S sample shall be taken and analyzed by the hydrogen sulfide analyzer, and the H_2S concentration results recorded, at least once per week. If additional H_2S samples are taken, those shall also be recorded.

Biogas Generation

The permittee shall perform the following to determine the quantity of biogas produced by the anaerobic digester:

- Once per month, the total gas flow shall be recorded.

2.20 Operations and Maintenance Manual

The permittee shall maintain an operations and maintenance (O&M) manual which describes the procedures that will be followed to maintain good working order and assure operation as efficiently as practical for the H_2S monitor and the pilot flame detector. The procedures and specifications described in the O&M manual shall address, at a minimum, the following topics:

H_2S Monitor

- Standard operational procedure for H_2S sampling,
- Frequency and method of calibration,
- Operational maintenance, and
- Procedures for upset/breakdown conditions and for correcting equipment malfunctions

Pilot Flame Detector

- Method of ensuring continuous operation and
- Operational maintenance

If the O & M manual is updated a copy shall be submitted to the DEQ Twin Falls Regional Office at the following address:

Air Quality Permit Compliance
Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore
Twin Falls, Idaho 83301
Phone: (208) 736-2190 Fax: (208) 736-2194

2.21 Recordkeeping Requirement

The permittee shall comply with the recordkeeping requirements of General Provision 7.

[DRAFT]

3. TWO FULL-TIME NATURAL GAS-FIRED BOILERS

3.1 Process Description

Two boilers provide steam and hot water to the manufacturing processes at the facility. The two boilers combust natural gas exclusively.

3.2 Emissions Control Description

There are no emissions controls for the two full-time natural gas-fired boilers.

Table 3.1 TWO FULL-TIME NATURAL GAS-FIRED BOILERS DESCRIPTION

Emissions Unit(s)/Process(es)	Emissions Control Device	Emissions Point
Full-Time Boiler 1 (Blr. 1)	N/A	Exhaust stack BOILER1
Full-Time Boiler 4 (Blr.4)	N/A	Exhaust stack BOILER4

[DRAFT]

Emissions Limits

3.3 Emissions Limits

The **PM_{10}** emissions from the full-time boilers 1 and 4 stacks shall not exceed any corresponding emissions rate limits listed in Table 2.2.

Table 3.2 FULL-TIME BOILERS 1 AND 4 EMISSIONS LIMITS

Source Description	PM_{10}	
	lb/hr	T/yr
Full-Time Boiler 1, Single Fuel Fired **(Natural Gas Combustion)**	0.19	0.83
Full-Time Boiler 4, Single Fuel Fired **(Natural Gas Combustion)**	0.18	0.79

[DRAFT]

3.4 Grain Loading Limit

The permittee shall not discharge to the atmosphere from full-time boilers 1 and 4 stacks PM in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume for gas, as required by IDAPA 58.01.01.676.

[DRAFT]

3.5 Opacity Limit

Visible emissions from the full-time boilers 1 and 4 stacks, or any other stack, vent, or functionally equivalent opening associated with the full-time boilers 1 and 4, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

3.6 Allowable Fuel

Boilers 1 and 4 shall only combust natural gas as fuel.

Monitoring, Recordkeeping, and Reporting Requirements

3.7 NSPS-Subpart Dc Applicability Notification, Monitoring, Reporting and Recordkeeping Requirements (Boilers 1 and 4)

3.7.1 In accordance with 40 CFR 60.48c(a), the permittee shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup as required by 40 CFR 60.7 for Boilers 1 and 4.

The notification shall include the following:

- the design heat input capacity of the affected facility,
- fuels to be combusted in the affected facility,
- the annual capacity factor at which the permittee anticipates operating the affected facility based on all fuels fired and based on each fuel fired.

3.7.2 The monitoring and recordkeeping of fuels combusted in the boilers (Boilers 1 and 4) shall comply with 40 CFR 60.48c(g).

3.8 Recordkeeping Requirement

The permittee shall comply with the recordkeeping requirements of General Provision 7.

[DRAFT]

4. LACTOSE PRODUCTION LINE

4.1 Process Description

The Glanbia Gooding facility produces whey powder from the lactose production line. Lactose whey is produced through a multi-step process starting from evaporation of raw milk into crystallizers to a series of refiners before entering a drying cycle. A primary dryer utilizes steam heat to carry lactose particles to a cyclone. Lactose particles are discharged from the cyclone to a fluidized bed dryer for final drying. Fine lactose particles are carried in the airstreams from the primary and fluidized bed dryers to their corresponding baghouses and the mill receiving baghouse for product recovery. Most of the lactose particles are discharged from the fluidized bed to a conveying line for transport to lactose powder bins. Lactose whey is temporarily stored in the powder bins and eventually is transferred through a surge hopper to the lactose bagging line where the finished product is received for packaging. A relatively small amount of fine whey particulate matter will emit to the atmosphere through the new baghouses associated with three lactose powder bins and two surge hoppers.

[June 26, 2008]

4.2 Emissions Control Description

Table 4.1 LACTOSE PRODUCTION LINE DESCRIPTION

Emissions Unit(s)/Process(es)	Emissions Control Device	Emissions Point
Lactose Primary Dryer Lactose Primary Dryer Baghouse	N/A	Exhaust stack PDRYBH Exit height: 89.0 ft Exit diameter: 2.8 ft Exit flow rate: 18,752.5 acfm Exit temperature: 205 °F Type: Vertical
Lactose Secondary Fluidized Bed Dryer Fluidized Bed Dryer Baghouse	N/A	Exhaust stack FBEDBH Exit height: 89.0 ft Exit diameter: 2.5 ft Exit flow rate: 13,942.7 acfm Exit temperature: 163 °F Type: Vertical
Lactose Receiving Baghouse (Existing Bauermeister Receiving Baghouse)	N/A	Exhaust stack LACBAG
Milling Process, Mill Receiving Baghouse	N/A	Exhaust stack MRECBH Exit height: 48.0 ft Exit diameter: 0.5 ft Exit flow rate: 440 acfm Exit temperature: 95 °F Type: Horizontal
Three Powder Bins	Three Powder Bin Baghouses	Exhaust stack PBINBH
Two Lactose Surge Hoppers	Two Lactose Surge Hopper Baghouses	Exhaust stack LACHOPBH Exit height: 43.0 ft Exit diameter: 0.5 ft Exit flow rate: 440 acfm Exit temperature: 95 °F Type: Horizontal

[DRAFT]

Emissions Limits

4.3 PM_{10} Emissions Limit

4.3.1 The PM_{10} emissions from the stack of lactose primary dryer baghouse shall not exceed 1.8 lb/day.

4.3.2 The PM_{10} emissions from the stack of secondary fluidized bed dryer baghouse shall not exceed 1.26 lb/day.

4.3.3 The PM_{10} emissions from the stack of lactose receiving baghouse (existing Bauermeister receiving baghouse) shall not exceed 18.24 lb/day.

4.3.4 The PM_{10} emissions from the stack of milling process, mill-receiving baghouse shall not exceed 1.8 lb/day.

4.3.5 The PM_{10} emissions from the stack of powder bin baghouse shall not exceed 27.6 lb/day.

4.3.6 The PM_{10} emissions from the stack of lactose surge hopper baghouse shall not exceed 42.24 lb/day.

[June 26, 2008]

4.4 Opacity Limit

Visible emissions from the stacks of the lactose primary dryer baghouse, the fluidized bed dryer baghouse, the lactose receiving baghouse, the mill receiving baghouse, the three powder bin baghouses, or the two lactose surge hopper baghouses, or any other stack, vent, or functionally equivalent opening associated with these baghouses, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

[June 26, 2008]

Operating Requirements

4.5 Operating Requirements for the Baghouses

The permittee shall install and operate baghouses to control PM and PM_{10} emissions from the process as specified in Table 4.1.

4.6 Baghouse/Filter System Procedures

For the lactose primary dryer baghouse, the fluidized bed dryer baghouse, the lactose receiving baghouse, the mill receiving baghouse, the three powder bin baghouses, or the two lactose surge hopper baghouses:

The permittee shall maintain a Baghouse/Filter System Procedures document for the inspection and operation of the baghouses/filter system which controls emissions from the process. The Baghouse/Filter System Procedures document shall be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.

The Baghouse/Filter System Procedures document shall describe the procedures that will be followed to comply with General Provision 2 and shall contain requirements for weekly see-no-see visible emissions inspections of the baghouse. The inspection shall occur during daylight hours and under normal operating conditions.

The Baghouse/Filter System Procedures document shall also include a schedule and procedures for corrective action that will be taken if visible emissions are present from the baghouse at anytime. At a minimum the document shall include:

- Procedures to determine if bags or cartridges are ruptured; and
- Procedures to determine if bags or cartridges are not appropriately secured in place.

The permittee shall maintain records of the results of each baghouse/filter system inspections in accordance with General Provision 7. The records shall include a description of whether visible emissions were present and if visible emissions were present, a description of the corrective action that was taken.

The Baghouse/Filter System Procedures document shall be maintained and shall contain a certification by a responsible official. Any changes to the Baghouse/Filter System Procedures document shall be submitted within 15 days of the change.

The Baghouse/Filter System Procedures document shall also remain on site at all times and shall be made available to DEQ representatives upon request.

The operating and monitoring requirements specified in the Baghouse/Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions.

The permittee shall submit the O&M manual to the following address:

Air Quality Permit Compliance
Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore
Twin Falls, Idaho 83301
Phone: (208) 736-2190 Fax: (208) 736-2194

[June 26, 2008]

4.7 Lactose Receiving Baghouse Operation Requirement

The permittee shall replace all the bags in the lactose receiving baghouse every six months, or a different frequency proposed by the permittee and approved by DEQ.

[June 26, 2008]

Monitoring, Recordkeeping, and Reporting Requirements

4.8 Performance Test

4.8.1 Within six months of initial start-up, the permittee shall conduct a performance test, in accordance with General Provision 6 of this permit, to demonstrate compliance with the emissions limit of lactose surge hopper baghouse specified in Permit Condition 4.3.6.

4.8.2 For each test run, the permittee shall monitor and record the following information:

- Emissions rate in pounds per hour
- Lactose powder throughput from both hoppers combined in pound per hour
- Baghouse pressure drop
- The stack flow rate in actual cubic feet per minute and dry standard cubic feet per minute
- The stack temperature
- Baghouse grain loading in grains per dry standard cubic feet.

[June 26, 2008]

4.9 Visible Emissions Monitoring

To demonstrate compliance with Permit Condition 4.4, the permittee shall conduct a weekly inspection of potential sources of visible emissions for the lactose production line, during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20%, as measured using Method 9, for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

[June 26, 2008]

4.10 Recordkeeping

The permittee shall maintain records of the results of all monitoring specified in Permit Conditions 4.5 through 4.9 in accordance with the recordkeeping requirements of General Provision 7.

[June 26, 2008]

5. WHEY PROTEIN CONCENTRATE BAGGING LINE

5.1 Process Description

The dedicated WPC bagging line will allow finished WPC to be packaged more efficiently. Dried WPC is transferred to WPC powder bins. (The WPC powder bins are enclosed within the building.) Finished WPC is transferred from the WPC powder bins to the WPC surge hopper and then to the new WPC bagging line. The WPC process line and lactose process line will utilize the same piping and feed system for bulk packaging.

[June 26, 2008]

5.2 Emissions Control Description

Table 5.1 WHEY PROTEIN CONCENTRATE BAGGING LINE DESCRIPTION

Emissions Unit(s)/Process(es)	Emissions Control Device	Emissions Point
WPC Surge Hopper	WPC Surge Hopper Baghouse	Exhaust stack WPCSRGBH
WPC bagging line	WPC Nuisance Baghouse	Exhaust stack WPC NUSB

Emissions Limits

5.3 Emissions Limit for PM_{10}

5.3.1 The PM_{10} emissions from the stack of the WPC nuisance baghouse shall not exceed 2.64 lb/day.

5.3.2 The PM_{10} emissions from the stack of the WPC surge hopper baghouse shall not exceed 0.71 lb/day.

[June 26, 2008]

5.4 Opacity Limit

Visible emissions from the stack of the WPC surge hopper baghouse and the WPC nuisance baghouse, or any other stack, vent, or functionally equivalent opening associated with the WPC surge hopper baghouse and the WPC nuisance baghouse, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

[June 26, 2008]

Operating Requirements

5.5 Operating Requirements for the Baghouses

5.5.1 The permittee shall install and operate baghouses to control PM and PM_{10} emissions from the process as specified in Table 5.1.

5.6 Baghouse/Filter System Procedures

For the WPC surge hopper baghouse and the WPC nuisance baghouse:

The permittee shall maintain a Baghouse/Filter System Procedures document for the inspection and operation of the baghouses/filter system which controls emissions from the process. The Baghouse/Filter System Procedures document shall be a permittee developed document independent of the manufacturer supplied operating manual but may include summaries of procedures included in the manufacturer supplied operating manual.

The Baghouse/Filter System Procedures document shall describe the procedures that will be followed to comply with General Provision 2 and shall contain requirements for weekly see-no-see visible emissions inspections of the baghouse. The inspection shall occur during daylight hours and under normal operating conditions.

The Baghouse/Filter System Procedures document shall also include a schedule and procedures for corrective action that will be taken if visible emissions are present from the baghouse at anytime. At a minimum the document shall include:

- Procedures to determine if bags or cartridges are ruptured; and
- Procedures to determine if bags or cartridges are not appropriately secured in place.

The permittee shall maintain records of the results of each baghouse/filter system inspections in accordance with General Provision 7. The records shall include a description of whether visible emissions were present and if visible emissions were present, a description of the corrective action that was taken.

The Baghouse/Filter System Procedures document shall be maintained and shall contain a certification by a responsible official. Any changes to the Baghouse/Filter System Procedures document shall be submitted within 15 days of the change.

The Baghouse/Filter System Procedures document shall also remain on site at all times and shall be made available to DEQ representatives upon request.

The operating and monitoring requirements specified in the Baghouse/Filter System Procedures document are incorporated by reference to this permit and are enforceable permit conditions.

The permittee shall submit O&M manual to the following address:

Air Quality Permit Compliance
Department of Environmental Quality
Twin Falls Regional Office
1363 Fillmore
Twin Falls, Idaho 83301
Phone: (208) 736-2190 Fax: (208) 736-2194

[June 26, 2008]

5.7 Visible Emissions Monitoring

To demonstrate compliance with Permit Condition 5.4, the permittee shall conduct a weekly inspection of potential sources of visible emissions for whey protein concentrate bagging line during daylight hours and under normal operating conditions. The inspection shall consist of a see/no see evaluation for each potential source of visible emissions. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20%, as measured using Method 9, for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each visible emission inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

[June 26, 2008]

5.8 Recordkeeping

The permittee shall maintain records of the results of all monitoring specified in Permit Conditions 5.5 through 5.6 in accordance with the recordkeeping requirements of General Provision 7.

[June 26, 2008]

6. PERMIT TO CONSTRUCT GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.

[Idaho Code §39-101, et seq.]

2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211, 5/1/94]

3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.

[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:

   a. Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

   d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

5. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:

   a. A notification of the date of initiation of construction, within five working days after occurrence;

   b. A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

c. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;

d. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and

e. A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

   All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

   Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

12. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

13. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[IDAPA 58.01.01.322.15.h, 5/1/94; 40 CFR 70.6(a)(5)]